

**Wageningen University
Mansholt Graduate School**

SOCIAL CAPITAL AND ACCESS TO FINANCIAL MARKETS

**The economic role of rural organisation and farmers' networks
in post-Sandinist Nicaragua**

Ruerd Ruben and Danielle van Strien

Wageningen University,
Department of Social Sciences,
Development Economics Group
Hollandseweg 1, 6706 KN Wageningen,
The Netherlands
Tel. 31-317-482486/484360
Fax 31-317-484037
E-mail : Ruerd.Ruben@alg.OE.WAU.NL

Paper delivered at the 2001 Meeting of the
Latin American Studies Association (LASA)
Panel session SEC12 'Desmistificando el Capital Social Campesino
Washington D.C., USA – September 6-8, 2001.

Research Programme on Rural Organisation in Nicaragua
Grant 96 – 12.1 - Netherlands Israel Research Programme (NIRP)
ESECA-UNAN / DE-WAU / HUJI

SOCIAL CAPITAL AND ACCESS TO FINANCIAL MARKETS

The economic role of rural organisation and farmers' networks in Nicaragua

Ruerd Ruben & Danielle van Strien , Wageningen Agricultural University
Department of Social Sciences , Development Economics Group

Abstract

Rural development critically depends on the constitution of adequate local governance structures that enable farm households to participate in exchange. Under conditions of economic depression and legal pluralism, institutional relations and informal networks become especially important for farmers livelihoods. Given the highly imperfect conditions of market development in Nicaragua, social networks are especially relevant to achieve information and knowledge regarding access conditions. Farmers would like to achieve better information on exchange and access conditions, while institutional agents intend to reduce risks of default.

In this paper we constructed a composite variable for social capital that includes the diversity of social networks in which farm households are involved. The relative importance of social capital is compared to physical assets. Moreover, the contribution of existing linkages with market and voluntary organisations for household welfare are reviewed.

The analysis reveals that social capital has a clear positive effect on household income. It also increases the probability that households can get access to rural finance. Both aspects are mutually reinforcing, since households with better access to credit also achieved higher average expenditures. Given the particular political and economic situation in the Nicaraguan countryside, the relative importance attached to social capital (compared to physical capital or fixed assets) can be considered as a combined result of prevailing legal uncertainty and missing markets. The strong reduction of state involvement in the rural development process in Nicaragua has led to a disproportional growth of the voluntary sector (NGO's and regional development projects) especially in more remote areas. Some critical remarks can be made regarding the long-term perspectives of this development.

Keywords: Social Capital; Rural Institutions; Household Expenditures; Credit; Nicaragua.

1. Introduction

Institutional factors and organisational features that influence the process of rural income formation and distribution are usually neglected in economic analyses. Although the importance of these processes is generally acknowledged in theory, very little empirical research has been done in order to enable an adequate quantification of institutional and social variables. Only recently, some attempts have been made to measure different dimensions of social capital in rural societies (Malucio *et al.*, 1999; Krishna & Uphoff, 1999; Narayan & Pritchett, 1997).

This paper describes the importance of social capital for the livelihood strategies of rural households in Nicaragua. Social capital is understood as the institutions, relationships and norms that shape the quality and quantity of human social interaction. Increasing evidence shows that social cohesion is critical for societies to prosper economically and for development to be sustainable (Putnam, 1993). We focus on two typical dimensions of social capital: (i) the role of social capital as a welfare-increasing device (e.g. providing insurance and information to reduce uncertainties) and (ii) the importance of social capital as an enforcement mechanism to control default in obligations (e.g. when legal systems are not operating efficiently).

The institutional framework for rural development experienced rather drastic change in Nicaragua during the last decade. The former *Sandinist* government placed great emphasis on the role of state agencies for commerce, credit and extension services and the land reform programme favoured the establishment of an important number of agrarian (production and service) co-operatives. After the presidential elections, most agrarian support and delivery services have been dismantled or privatised and co-operative membership sharply declined. General economic stagnation reduced purchasing power and thus farmers' marketing prospects, while the legal and institutional crisis made access to formal credit far more difficult. Local farmers' organisations, municipalities and non-governmental organisations (NGOs) became increasingly important for technical and economic assistance, especially in the more remote regions. Consequently, their particular rules and regulations also shape the procedures for getting access to these services.

In this particular context, the relative importance of different types of capital resources (e.g. physical capital, financial capital, human capital and social capital) is subject to profound modifications. While the former types of capital resources received overwhelming emphasis during the *Sandinist* period (high public investment rate; substantial expansion of rural credit at subsidised interest rates), under the new regime the economic process is increasingly left to market forces. Since the functioning of rural factor and commodity markets is highly imperfect, poor farmers are likely to rely increasingly on local networks and (in)formal organisation to guarantee access to exchange platforms.

This paper reviews the relative importance of social capital for small farmers' livelihood strategies in rural Nicaragua. Therefore, we developed an operational methodology for the 'measurement' of some major dimensions of social capital based on the social, commercial and institutional relationships that farm households maintain at community level. The overall research question refers to the role of social and institutional factors for farm household incomes and their access to credit resources in Nicaragua. To answer this question it is necessary to address the following issues:

- What is the institutional environment in which farm households operate?
- What can be considered as social capital, and how is it created?
- Through what mechanisms does social capital influence household incomes?
- What other household characteristics influence household incomes, and in what way?

Understanding the economic role of social capital is highly important both for analytical and for policy purposes. In analytical sense, social capital can be considered as the combination of the network of relations generated through human interaction, providing vital information on technically and economically optimal production systems. It also refers to the implicit selection criteria applied by different local institutions for input or service delivery. Social capital is thus expected to reduce information and insurance costs, while lower transaction costs facilitate market transactions, like obtaining credit, which could lead in turn to higher incomes. In order to disentangle these different dimensions of social capital, we rely on a theoretical inquiry in the tradition of New Institutional Economics (NIE).

Detailed research on the determinants and implications of social capital for the farm household economy should enable the identification of suitable institutional arrangements that favour rural development and farmers' welfare. When markets are functioning imperfectly and the state also reduces its role in the economic process, voluntary institutions are likely to take command. Participation in local institutional networks becomes part of farmers' survival strategies. Contrary to the top-down approach for establishing rural organisation followed by former *Sandinist* leadership, local participation now becomes an endogenous process. This poses questions on how the 'construction' of social capital can be reinforced and how equalising social capital can be at the community level. The latter issue refers to the spatial and community-level distribution of social capital, compared to structural variables (location, marketing possibilities) and personal characteristics (e.g. age, gender, education) that equally influence prospects for socio-economic development.

Field work for this research took place in the summer of 1997 as a part of the Netherlands Israel Development Research Programme (NIRP) on changing modalities of rural organisation in Nicaragua (Vaessen et al., 1999). Major attention is given to the measurement of farm household differences in expenditures related to membership of particular types of rural institutions (i.e. production co-operatives, service co-operatives, independent farmers) and the identification of possible relationships between farm income and social capital in the Nicaraguan countryside. Given the importance of access to rural finance for the process of capital accumulation, a more elaborate analysis on the sources of credit and the role of social capital as a collateral substitute is presented.¹

The remainder of this paper is structured in the following way. In section 2 we discuss the importance of social capital for the analysis of rural development processes. Special attention is given to institutional factors that influence farm household expenditures and access to rural credit. Section 3 provides a short overview of major changes in agrarian organisation and rural institutional networks in Nicaragua during the structural adjustment programme. The reduction of state agencies and the increasing importance of the voluntary sector (NGOs and peasant organisations) is illustrated with descriptive data derived from the field survey. This is followed by an empirical analysis of the major dimensions of social capital and its relationship to household's expenditures and access to credit. Section 5 elaborates some policy conclusions.

2. Rural Organisation and Social Capital

New Institutional Economics is an interdisciplinary effort to combine concepts derived from economics, law, organisation theory, political science, sociology, and anthropology for understanding the development of institutions of social, political, and commercial life. Its goal is to explain what institutions are, how they arise, what purposes they serve, how they change, and how - if at all - they should be reformed (Klein, 1998). Within this tradition, institutional

¹ The analysis regarding the relationship between social capital and access to off-farm employment could not fully be made due to the unequal distribution of residues of this function.

organisation is meant to reduce transaction costs. Since most markets in developing countries are highly complex due to uncertainties, imperfect information and interdependence of agents, individuals operate under conditions of bounded rationality and opportunism. This generates costs when using the market (Williamson, 1985). Therefore, enterprises will constantly compare the costs of using the market, with the costs of internal organisation and the market will only be used when the latter costs are lower (Saccomandi, 1995). When information is imperfect and information asymmetries prevail amongst agents, market prices cannot reflect all the dimensions of a transaction and therefore the price mechanism is not always an adequate co-ordination mechanism (Douma & Schreuder 1991). Consequently, people may prefer institutional exchange between peers based on long-term arrangements. Moreover, engagement in contractual relationships may be helpful to control opportunistic behaviour (e.g. free riding).

Commercial and financial transactions in rural communities are mostly severely hindered by local monopolies. Only few agents are operating as suppliers, while a big amount of farmers require these services. Transaction costs are high when the commodities involved exhibit asset specificity, when uncertainty prevails and the frequency of transactions is low. Provision of rural financial services is a typical example of a transaction where supervision is required to control default. Recovery of loans critically depends on the availability of reliable information on the borrowers' behaviour. Moreover, under conditions of legal uncertainty, physical assets are not very suitable as collateral device and therefore lenders try to rely on additional securities from trustees. Since the established of specialised governance structures involves high supervision costs, local voluntary organisations are considered as an attractive alternative to guarantee loan recovery. When assets specificity is high, it is expected that the transaction takes place within organisations rather than across markets.

Many civil organisations have emerged as substitutes for the state and the market. When the state fails to deliver public goods, insurance, management of externalities, minimum basic needs, and democratic rights, civil organisations may develop to fill the vacuum. Otherwise, market failures may lead to the emergence of institutions, many of which may take the form of organisations (de Janvry et al 1995).² For the provision of goods and services, effective interaction between state, market and local communities is of vital importance. These sectors make use of rather different enforcement principles: the state uses hierarchical control, the market relies on dispersed competition, and communities are based on spontaneous solidarity (Streeck & Schmitter 1985). In a similar vein, Uphoff (1993) refers to the public, private and collective action (or voluntary) sector that use different incentives to guarantee co-operation or compliance. State authority backed by coercion is the main incentive in the public sector, while price incentives are used in the private sector, leaving the decision to participate to the individuals. Collective action depends on processes of bargaining, discussion, accommodation, and persuasion, while peer pressure is used to guarantee people participation..

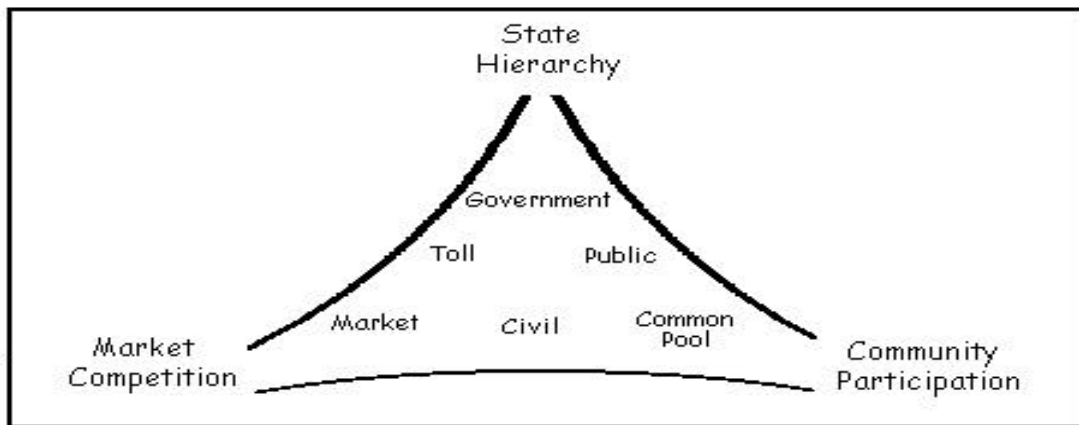
The three institutional arrangements are likely to interact in both positive and negative ways. Communities encourage mutual confidence and good faith which are necessary for stable economic exchange, while market exchange enables specialisation. Markets require a legal framework and the authoritative enforcement of contracts, and the state requires a markets as a supplementary mechanism of allocation. State organisation without voluntary action easily disrupts into a bureaucratic or military regime, and modern communities without a state would always be in danger of losing their identity and independence (Streeck &

² Institutions are complexes of norms and behaviours while organisations are structures of recognised and accepted roles. Organisations can become more or less institutional over time to the extent that they enjoy special status and legitimacy for having satisfied people's needs and for having their normative expectations over time (Uphoff, 1993).

Schmitter, 1985). On the other hand, community exchange networks may reduce market failures by facilitating informal collusion and supporting clientele arrangements, but market competition may also decompose community bonds and erode common values. State intervention may distort markets whereas the outcome of free contracts and competition may contradict state policies. Finally, communities may suffer disintegration as a result of too much intervention.

The role of voluntary organisation is especially important for the provision of certain goods and services. Picciotto (1995) identifies six typical categories of goods and services and indicates the required synergy between state, market and voluntary organisations to guarantee their provision (see Figure 1). The market is most effective for goods that are consumed by one person at a time (high subtraction) and in circumstances where individual consumers can be excluded without incurring substantial costs (high excludability). Typical goods to be provided by the state include collective services (infrastructure, police) which are available to everyone and no one can be excluded from consumption. Individual agents have no incentive to produce these goods, because once produced it is available to anyone. Therefore, hierarchy is required to supply enough goods and to guarantee everyone's participation. The voluntary sector can provide useful functions for the management of common pool goods resources subject to depletion. These are available to everyone, but consumption by one person leaves less for others and therefore community-control mechanisms are required to control over-consumption and to control degradation. Common pool goods are typical for the voluntary sector based on persuasion and co-operation.

Figure 1 Categories of commodities and their institutional organisation



Based on Picciotto (1995)

A number of particular activities can be provided under mixed principles. Public utilities like waterworks are classified as toll goods. They can be managed effectively through organisational options that combine market and hierarchy. Public goods (like feeder roads) need a combination of hierarchy and participation to settle conflicting interests and to guarantee proper maintenance. The last category of civil goods requires a mix of participation and market forces. These are delivered by private voluntary organisations, for instance an NGO that provides households with legal assistance or financial management services. Civil organisations operate with minimal reference to hierarchy, and are breeding grounds for participation and co-operation. (Picciotto, 1995). They prove to be particularly important for the provision of rural financial services when state and market organisation withdraw.

Social Capital is especially important to reinforce the effectiveness of the voluntary sector for the provision of common, civil and public goods and services. Social capital is not just the sum of the institutions which underpin a society; it is the glue that holds them together (World Bank, 1999). Several sources of social capital can be identified. The family structure is the main source of social integration and represents an important aspect in generating social capital for the larger society. The community is the place where social interactions among neighbours, friends and relatives takes place. These interactions generate social capital and the ability to work together. The groups themselves are also a source of social capital.

Three different economic functions of social capital can be identified. First, it can be considered as a set of horizontal associations between people that maintain connections between each other. These social networks include social relationships, shared beliefs, group identification or voluntary association. The key feature of social capital in this definition is that it facilitates co-ordination and co-operation, increasing productivity by reducing the costs of doing business. A second, somewhat broader view of social capital also includes vertical associations. Vertical associations are characterised by hierarchical relationships and an unequal power distribution among members. In fact, this view of social capital captures social structure at large, as well as the ensemble of norms governing interpersonal behaviour. The third view of social capital includes the social and political environment that enables norms to develop and shapes social structure. In addition to the largely informal, and often local, horizontal and hierarchical relationships of the first two concepts, this view also includes the most formalised institutional relationships and structures (e.g. governance structure, political regime, rule of law, legal system, and civil and political rights).

Social capital can contribute to enhanced welfare through two mechanisms: (i) directly through improved access to necessary commodities (inputs) and services (credit), and (ii) indirectly through better information and reduced uncertainty on the behaviour of other agents and institutions.³ Narayan and Pritchett (1997) distinguish five specific mechanisms for how social capital influences farmers' welfare. These mechanisms refer to (i) improved public sector efficiency, (ii) better resource management, (iii) provision of informal insurance, (iv) diffusion of knowledge on innovations, and (v) reduction of imperfect information. Putnam (1993) explained the importance of voluntary associations for the effective delivery of public goods and services, enabling linkages between government agents with the social network for direct monitoring. Social capital also eases local co-operation for the management of common pool resources. Social networks permit local risk-sharing and could operate as a kind of informal social safety net. Consequently, the diffusion of innovations and technical change can be facilitated when better linkages among individuals exist. When information is less imperfect and thus transaction costs are reduced. Lower transaction costs create opportunities for market transaction at outputs, credit, land and labour markets that could lead to higher incomes. Finally, social capital can serve as an effective enforcement mechanism to reduce default on outstanding obligations when reliance on the legal system is too expensive. A typical example is credit, where the borrower needs information about how and where credit can be obtained, while the lender requires information on the (payback)-behaviour of potential clients. Social networks provide lenders with additional possibilities to secure that the borrower will honour their obligations.⁴

³ Social capital can also involve some negative effects. Woolcock (1998) refers to the downside of social capital as a force that can hinder economic growth. Social groups can place heavy personal obligations on members that prevent them from participating in broader social networks. Moreover, strong civic groups can secure a disproportionate share of a country's natural resources, which can hinder macro-economic growth.

⁴ These social ties are not always necessarily positive. It is likely that someone is "forced" to do business (providing, receiving credit, or hiring labour) with family or members from a certain group, because doing otherwise is socially unacceptable. A better deal could have been made with an outsider, but social pressure from within the group prevents this.

3. Structural Adjustment and Institutional Networks in Nicaragua

The institutional environment in Nicaragua is complex and highly unstable. During the last three decades, the relative importance attached to state, market and community organisation has been frequently modified. Bastiaensen (1997) refers in this respect to the "institutional crisis" as the result of military warfare, economic stagnation and natural disasters that regularly disrupt social life in Nicaragua. Consequently, major co-ordinating functions in the development process could not be fulfilled in a satisfactory manner, while the absence of sufficient guarantees implied important bottlenecks for economic recovery in the rural sector.

It is common practice to distinguish three different periods in Nicaragua's recent history. Before 1979, the Somoza dynasty had been ruling Nicaragua for over four decades. This period was characterised by a process of resource monopolisation by the ruling elite, whereas in rural areas large landowners maintained control over a substantial part of the rural economy. Consequently, vertically-structured patron-client relationships represented the major governance structures of economic transactions. The Somoza clan fled the country in 1979 during the mass revolt led by the Sandinist Front of National Liberation (FSLN - *Frente Sandinista de Liberacion Nacional*). The revolution was successful and Somoza's possessions were declared co-operative property. Substantial state campaigns were launched to improve literacy and health. During the *Sandinist* period a massive programme of land reforms was executed and agrarian markets, particularly those for grains and traditional exports, became highly state-regulated. The previous interlinked credit, labour and land market relations were largely dissolved but not replaced by a viable alternative. This period was overshadowed by the contra war, started by the fled *Somocists* with financial support from the United States. The Sandinist party was defeated in the 1990 elections by the National Opposition Union (UNO - *Union Nacional Opositora*), a coalition of 14 opposition parties. After elections many of the reforms made by the Sandinists were turned back. The policy of market liberalisation and deregulation reduced the public sector role. This resulted in a severe contraction in the outreach of financial services and limited competition in rural input and commodity markets (Bastiaensen, 1997; Spoor, 1992).

Although ruling political elite changed and the ownership of major agrarian institutions has been adjusted, local social networks largely remained intact. The traditional extended family system still provides basic social cohesion, supplemented with personal networks beyond the lineage. Most agrarian co-operatives are based on family relationships. Local leadership plays an important role because of their capacity to mediate with the outside world. Peasant communities in Nicaragua are largely composed of several competing patron-client networks. Different social sectors scarcely interact, and quite often relationships are conflictive (Bastiaensen, 1997). State and market organisations are likely to be built on these patronage networks in order to establish their hegemony.

Contrary to the expectations, local networks have not lost importance in rural Nicaragua. Co-operative frameworks are still based on (horizontal) family ties and (vertical) patron-client relationships that guarantee access to resources, information, finance and markets. We may even expect an increasing role of informal networks due to:

- contraction of exchange networks caused by general decline in purchasing power ('thin markets'),
- legal uncertainty regarding formal property rights on land and housing established in preceding periods ('legal pluralism')
- competing services provided by a multiplicity of private institutions ("institutional overlap").

While the amount of institutions sharply increased after privatisation, the quality of the services provided is likely to be substantially reduced. This is particularly the case in the financial market, where a great number of private banks, NGOs and local development projects all offer distinctive credit services to rural households. Given the high level of legal uncertainty, physical collateral requirements cannot be made effective in most occasions, and thus other types of guarantees become increasingly important.

The multiplicity of agents operating in the rural environment is illustrated in Table 1. We classified existing relations or connections that households currently maintain in order to get an idea of what sector in society is most used. Included activities refer to buying and selling of inputs and products, sources for training, legal assistance, processing, transport, labour transactions, sharecropping arrangements and hire of pastures. Financial transactions are not included here, since our subsequent analysis is focussed on the relationships between social capital and access to credit.

Table 1 **Nicaragua: Institutional organisation of rural activities**

MARKET	VOLUNTARY	STATE
Merchants	Co-operatives (CAS, CCS, RL, other co-operatives)	State agencies
Consumer markets		Municipality
Processing plant	Joint pasture lease	
Commercial centre	Farmers' shops	
Agrarian bank	NGOs	
Pasture hire	Development projects	
Labour contracts	Sharecropping	
Local farmers' exchange	Family ties	
Gasoline station		

We collected data for the empirical analysis of the relative importance of each network for different types of farmers. Fieldwork took place 1997 in three regions of Nicaragua. These are the most densely populated regions located in the Western, Central and Northern parts of the country (the departments of *Leon*, *Chinandega*, *Carazo*, *Masaya*, *Rivas*, *Granada*, *Esteli*, *Nueva Segovia*, and *Madriz*). The data set contains information on household incomes and their relationships with institutions, organisations and other producers. The sample includes farmers organised in production and service co-operatives, as well as independent farmers in the farm size category up to 40 *manzanas* (28 ha.). Originally, 600 households were interviewed, but relevant information was available only for 484 cases. Table 2 provides information on the number of relationships that farmers maintain with the state, market and voluntary sector. Almost all households (96.5 %) have connections with the market sector, while 328 households (67.8 %) maintain connections with the voluntary sector. Only 81 household (16.7 %) have some sort of connection with the state sector. The market and voluntary sector have become much more important for farmers livelihood strategies while the state sector has lost relatively importance.

Table 2 **Number of households with relationships in different sectors**

HOUSEHOLDS WITH CONNECTIONS (N = 484)		
	FREQUENCY	PERCENT
STATE SECTOR	81	16.7
MARKET SECTOR	467	96.5
VOLUNTARY SECTOR	328	67.8

A separate analysis has been made of the relationships that farmers maintain with rural financial institutions. Difference should be made between ‘access to’ and ‘use of’ credit; the former refers to the possibility to receive credit (e.g. satisfying borrowers requirements), while the latter refers to actual disbursements made available to the farmer. During the survey, the households were asked (i) where they could lend money in case they needed it, and (ii) which source of credit effectively were used (see Table 3). The data reveal that while 68.8% of the households claimed to have access to credit, only 44.8 % received credit in the last two years. Most important sources of credit were NGO’s and local projects (35.4 %), private banks (27.6 %), friends and relatives (14.7 %). Co-operatives are no more considered as an important source of credit.

Table 3 **Access and use of credit by different sources**

	USE AND ACCESS TO CREDIT	
	FREQUENCY	PERCENT
USE CREDIT	217	44.8
ACCESS TO CREDIT	333	68.8
NO ACCESS TO CREDIT	151	31.2
SOURCE OF CREDIT		
• BANK	92	27.6
• NEIGHBOUR/FRIEND	47	14.1
• PATRON	5	1.5
• NGO/PROJECT	118	35.4
• PRODUCTION CO-OPERATIVE (CAS)	4	1.2
• SERVICE CO-OPERATIVE (CCS)	5	1.5
• OTHER CO-OPERATIVE	15	4.5
• FAMILY	8	2.4
• OTHER	39	11.8

Access to factor markets is considered of major importance for farmers welfare. Rural credit enables the purchase of yield-increasing inputs and serves as an insurance device. In case of credit market failures, participation in off-farm employment can be considered as a substitute for credit. Households with access to credit record on average 20 % higher expenditures. Household having access and receiving credit might improve their income indirectly through increased productivity made possible with inputs bought with credit; but another possibility is that credit is directly used for consumption purposes. Notice, however, that no significant differences are found in expenditures between households with and without income derived from off-farm employment.

Finally , a number of specific individual and farm characteristics is also expected to influence the welfare position of rural households. Annex 1 provides the descriptive statistics for these variables. We considered the following aspects:

- **Physical capital** ; household assets can serve as collateral for loans, so with a higher value of assets, it is expected that access to credit improves. Moreover, wealthy families are less in need for off-farm income, so a negative relation is expected between the level of physical capital and the choice to seek off-farm employment.
- **Household size** ; gives an indication of the amount of family labour available for farm production. Since labour capacities differ within the household only the number of people over eight years old is included. We expect a positive relation between household size and having members working off-farm.
- **Average education** of adult household members; used as a proxy for human capital. It is expected that higher education leads to more income and therefore higher expenditures. The relationship between educational level and access to credit is expected to be positive.
- **Age** of the household head; higher age is positively related to gaining experience, but after having reached a certain age the benefits of the experience tend to be outweighed by the loss of physical strength and the occurrence of health problems.
- **Gender** of household head; male and female-headed households exhibit different expenditure patterns and have differential access to credit and off-farm employment. Even while during the Sandinst era, women were stimulated to participate in public life, traditional norms and ideas about gender roles largely remain unchanged. Female-headed households face more difficulties and higher transaction costs in receiving credit.
- **Distance** from farm to market place; for farms located in remote places, transport costs are higher. We expect a negative relation between expenditures and distance. A greater distance will decrease the probability of a household getting involved in off-farm employment. The relationship between access to credit and distance also depends on the source of credit which is used. Banks are usually located in towns distant from the household. However, NGO's and projects that provide credit usually focus on remote rural areas, so distance to the market might not necessarily be a negative factor.

4. Social capital, access to credit and farm household expenditures

The empirical analysis attention will be focussed on the role of social capital for farm household welfare. Therefore, attention is given to (i) the direct contribution of social capital for the level of household expenditures and (ii) the indirect role of social capital as an additional collateral for borrowing. We estimated separate functions with household expenditures and access to credit as independent variables. Social capital, physical capital and institutional networks were used as major explanatory variables together with relevant individual and household characteristics.

The specification of some of the used variables requires some additional explanation. Expenditures are used as a proxy for household income. Major expenditure categories include food, clothes, education, transport, medicines and electricity. Monthly expenditures give quite reliable information of household's permanent income. However, when households are mainly dependent on agriculture, income can fluctuate between good and bad years. OLS regression techniques are used to estimate the function with household expenditure as the dependent variable.

Access to credit is specified as a binary variable: the variable will be either 1 (yes) or 0 (no). This variable indicates whether or not a household has access to credit while the underlying factors refer to their ability to find credit in combination with the preferences of

financial agents (bank, money lenders) for granting them credit. These abilities may depend again on relevant household characteristics. Binary choice models are suitable to deal with this type of problem of choice between two alternatives that depends on their intrinsic characteristics (Pindyck & Rubinfeld 1991).

Social capital and physical capital are both variables that are ‘constructed’ through factor analysis. Factor analysis permits an analysis of the interrelationships between different variables and to explain their common underlying dimensions (factors). The statistical approach involves finding a procedure for condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information (Hair et al., 1984). For social capital, the following variables were used in the factor analysis: (i) the number of connections of the household; (ii) the level of participation in co-operative organisations; (iii) the number of activities co-ordinated with other producer, and (iv) the percentage of crop output that has been marketed. In a similar way, physical capital is approached as a composite variable that includes: (i) the number of capital goods a household owns; (ii) the number of luxury goods a household possesses; (iii) the amount of large livestock (cows, horses) a household owns, and (iv) the amount of land owned by the household (in manzanas). This procedure prevents the usual problems that arise with the valuation of rather dissimilar capital goods.

Finally, institutional linkages of farm households with different sectors (state, market, voluntary sector) are expressed through a dummy variable that takes the value 1 if the household maintains most connections with the market sector and a zero value when most connections are with the voluntary sector. Since only three households had more connections with the state sector than with either the market or the voluntary sector, state dependency could not be analysed separately. The sector dummy thus only makes a differentiation between market and voluntary organisation.

Factor Analyses for Social and Physical Capital

Table 4 and 5 give the factor patterns for social and physical capital. Annex 2 shows that the selected variables are highly correlated with one another. Following the procedures outlined of Hair *et al.* (1992) all defined factors included into both analyses can be considered significant, since they have a factor loading beyond 0.30.

Table 4 **Factor analysis for Social Capital**

VARIABLE	FACTOR
Number of connections	0.781
Percentage of crop output marketed	0.730
Number of joint activities	0.551
Level of integration into co-operatives	0.488

Table 5 **Factor analysis for Physical Capital**

VARIABLE	FACTOR
Owned land (manzanas)	0.804
Number of large livestock	0.797
Number of capital goods	0.481
Number of luxury goods	0.461

The social capital factor explains 42.1% of total variance while the physical capital factor explains 43.1% of total variance (for detailed output and correlation matrices see annex 2).

Expenditure function

For the analysis of the importance of social and physical capital and other relevant farm household characteristics, the following function was estimated:

$$\text{Log}(EXP) = b_1 + b_2 \times SC + b_3 \times PC + b_4 \times HS + b_5 \times E + b_6 \times A + b_7 \times A^2 + b_8 \times G + b_9 \times D + b_{10} \times S$$

where:

SC	= Social capital	G	= Gender (0 = male; 1 = female)
PC	= Physical capital	D	= Distance (in km)
HS	= Household size	S	= Sector (0 = voluntary sector; 1 = market)
E	= Education (years)		
A	= Age (years)	A ²	= Age squared

To achieve normality the logarithm was taken of the dependent variable. Usual assumptions for multiple regression techniques hold, e.g. the error terms should have a constant variance for all observations as well as a normal distribution. Table 6 shows the results of the OLS regression.⁵ There has been made a correction for outliers and for heteroskedasticity (for the complete analysis, see annex 3). Three variables (gender, distance and sector) are not significant. Comparing the relative importance of social, physical and human capital (education) leads to the conclusion that all coefficients are positive and significant, but that the impact of social capital on household expenditure is by far the most important. Moreover, older head of household leads to higher expenditures, but as expected this relation is declining with a higher age. The relation between household size and expenditures is also positive, hence additional household members contribute to income.

Table 6 Expenditure analysis (OLS estimates)

	LOG(EXPENDITURES)	SIGN.
CONSTANT	7.295573	***
SOCIAL CAPITAL	0.238823	***
PHYSICAL CAPITAL	0.179994	***
HOUSEHOLD SIZE	0.093301	***
EDUCATION	0.065697	**
AGE	0.034586	*
AGE-SQUARED	-0.000268	
GENDER	0.069827	
DISTANCE	-0.002166	
SECTOR	-0.031338	
R-SQUARED	0.400	
ADJ. R-SQUARED	0.388	
N	478	

* p < 0,1 ** p < 0,05 *** p < 0,001

⁵ Six outliers were removed to achieve normality; the final sample included 478 cases.

Access to credit

Access to credit is analysed by considering farmers' response to the question whether they could borrow money in case they needed it. About one third of them claimed to have no place or nobody from which to borrow money and thus are considered as being excluded from sources of credit. The probability of having access to credit is defined as follows.

$$Prob.(AC) = c_1 + c_2SC + c_3PC + c_4HS + c_5E + c_6A + c_7G + c_8D + c_9S$$

Table 7 shows the results of the Probit analyses for farmers' access to credit.. It must be noted that even after removing outliers, the error terms of the probit analyses were not normally distributed. This is probably caused by the fact that there are much less cases that do not have access to credit. Therefore, a second analysis was done with the 151 households that declared not to have access to credit and a random sample of 151 households from the ones that have access to credit. In the latter analysis the residuals were distributed normally and besides education the same variables had significant coefficients with the same sign (see Annex 4 for a full analysis).

Social capital seems to increase access to credit for rural households, while physical capital appears to have a negative effect on the access to credit. The latter effect is surprising since one would expect that with more availability of physical capital, access to credit can be improved because the capital serves as a collateral for borrowing. A possible explanation can be found in the highly insecure legal environment in Nicaragua, where most physical collateral (land, houses) can hardly be made effective in case of default. Therefore, the availability of social capital tends to be a preferred collateral device.

The positive impact of distance on the access to credit can be explained by the fact that most farmers obtain credit through NGO's and rural development projects. It is assumed that these agencies prefer targeting to more remote households. The sector dummy variable shows that access to credit apparently improves when a household maintains more connections with the voluntary sector. No indications are found for effective gender-specific programs.

Table 7 Factors influencing access to credit (Probit analysis)

	ACCESS TO CREDIT		ACCESS TO CREDIT (REDUCED SAMPLE)	
CONSTANT	0.867339		1.156925	
SOCIAL CAPITAL	0.565649	***	0.699410	***
PHYSICAL CAPITAL	-0.114673	*	-0.161933	*
HOUSEHOLD SIZE	0.017477		0.017031	
EDUCATION	0.055910	**	0.018772	
AGE	-0.000920		-0.042966	
AGE-SQUARED	-3.56E-05		0.000382	
GENDER	0.209184		0.223937	
DISTANCE	0.025202	**	0.026720	**
SECTOR	-0.867713	***	-0.544963	**
McFADDEN R-SQUARED	0.174		0.203	
% OBSERVATIONS PREDICTED CORRECTLY	70.29		71.52	
OBS WITH DEP = 0	145		151	
OBS WITH DEP = 1	333		151	
TOTAL OBSERVATIONS	478		302	

We can conclude that social capital reveals the expected positive effect on household income and access to credit. While working together or doing business with others, new ideas are picked up, new information is obtained or exchanged (for instance about sources of credit, new jobs) and the overall level of knowledge is improved. Improved availability of information permits lower transaction costs, which in turn increases household welfare.

5. Policy perspectives

Despite the longstanding tradition of paying attention to the availability of physical resources and financial capital as major factors for the improvement of welfare and living standards in developing countries, the importance of capital assets may have been largely overestimated. The recent discussion on social capital as a driving force in the development process rightly gives renewed attention to the dimensions of social organisation and human interaction.

Rural development critically depends on the constitution of adequate local governance structures that enable farm households to participate in (non)commodity exchange. Under conditions of economic depression and legal pluralism, institutional relations and informal networks become especially important for farmers livelihoods. Given the highly imperfect conditions of market development, social networks are also relevant to achieve information and knowledge regarding access conditions. This refers both to farmers that would like to achieve better exchange conditions, and for institutional agents that intend to reduce default.

In this paper we constructed a composite variable for social capital that includes basically the diversity of social networks in which farm households can be involved. Since it is based on the number of external relationships, no definite conclusions can be drawn with respect to the relative importance of each network, nor on the intensity of interactions that take place within each network.

The analysis reveals that social capital has a positive effect on household income. It also increases the probability that households can get access to rural finance. Both aspects are mutually reinforcing, since households with better access to credit also achieved higher average expenditures. Given the particular political and economic situation in the Nicaraguan countryside, the relative importance attached to social capital (compared to physical capital or assets) can be considered as a combined result of prevailing legal uncertainty and missing markets. Due to the absence of unambiguously defined and registered property rights, assets can only to a limited extent be used as collateral or lending. Therefore, financial agencies also rely on social networks as an indication of the existing possibilities for loan recovery.

The strong reduction of state involvement in the rural development process in Nicaragua has led to a disproportional growth of the voluntary sector in charge of the provision of technical, organisational and economic/financial services. Consequently, local NGO's and regional development projects became major agents for running the countryside. Especially in more remote regions, these agencies virtually replaced all former state activities and sometimes also assumes typical market functions. There is no doubt about their positive contributions to the provision of services, training and organisational infrastructure. In the longer run, market development may equally benefit from these actions.

The limitations of a development process exclusively based on voluntary institutions should, however, also be acknowledged. Typical non-excludable services like road infrastructure and civil security can only effectively be provided by the state, while credit provision and marketing services should finally evolve into the market sector. Social capital may eventually be helpful to facilitate this transition, reinforcing the local capacity for pledging and negotiating with state agencies and providing local insurance networks that could increase farmers' willingness to invest. Apparently, in most rural regions of Nicaragua where our research took place, this phase has not yet been reached.

ANNEX 1

Descriptive statistics

VARIABLE	MEAN	STANDARD DEVIATION	MIN	MAX	MEASUREMENT
EXPENDITURE	10411.984	9029.2739	9.00	113600.00	Cordoba's
ACCESS TO CREDIT	0.69	0.46	0	1	0 = No access to credit (N = 151) 1 = Access to credit (N = 333)
OFF-FARM WORK	0.57	0.50	0	1	0 = Not working off farm (N = 210) 1 = Working off farm (N = 274)
SOCIAL CAPITAL	3.166E-17	1.000000	-1.70658	3.75850	
CONNECTIONS	6.6901	3.4514	0	19	Number
INTEGRATION IN CO-OPERATIVE	1.0992	1.6738	0	5	Likert Scale 0-5
JOINT ACTIVITIES	0.5579	0.9731	0	5	Number
MARKETING LEVEL	30.4350	30.6569	0	100.00	% of total output
PHYSICAL CAPITAL	-1.32E-16	1.000000	-1.22700	7.02381	Amount in cordobas
CAPITAL GOODS	2.6364	4.7939	0	93	Number
LUXURY GOODS	1.74	1.31	0	5	Number
LARGE LIVESTOCK	9.3471	16.7640	0	214	Number
LAND OWNED	20.9932	21.2428	0	105.00	Manzanas
HOUSEHOLD SIZE	5.1302	2.1920	1	10	Persons over 8 years old
AVERAGE ADULT EDUCATION	3.9971	2.6023	0	15	Years (adult = 18+)
AGE HEAD OF HOUSEHOLD	50.22	13.03	22	93	Years
GENDER HEAD OF HOUSEHOLD	6.82E-02	0.25	0	1	0 = Male (N = 451) 1 = Female (N = 33)
DISTANCE	10.26	8.21	0	50	Kilometres
MOST RELATED SECTOR	0.7293	0.4448	0	1	0 = Voluntary sector (N = 131) 1 = Market sector (N = 353)

ANNEX 2

Factor analysis for social capital

Correlation matrix

	CONNECTIONS	INTEGRATION IN CO-OPERATIVE	ACTIVITIES TOGETHER	% OUTPUT MARKETED
CONNECTIONS	1.000			
INTEGRATION IN CO-OPERATIVE	0.123 (0.003)	1.000		
ACTIVITIES TOGETHER	0.245 (0.000)	0.223 (0.000)	1.000	
% OUTPUT MARKETED	0.466 (0.000)	0.159 (0.000)	0.105 (0.010)	1.000

Communalities

	INITIAL	EXTRACTION
CONNECTIONS	1.000	0.610
INTEGRATION IN CO-OPERATIVE	1.000	0.239
ACTIVITIES TOGETHER	1.000	0.304
% OUTPUT MARKETED	1.000	0.532

Total variance explained

COMPONENT	INITIAL EIGENVALUES			EXTRACTION SUMS OF SQUARED LOADINGS		
	TOTAL	% OF VARIANCE	CUM. %	TOTAL	% OF VARIANCE	CUM. %
1	1.685	42.116	42.116	1.685	42.116	42.116
2	1.010	25.251	67.367			
3	0.804	20.105	87.473			
4	0.501	12.527	100.000			

Component matrix

	COMPONENT
CONNECTIONS	0.781
% OUTPUT MARKETED	0.730
ACTIVITIES TOGETHER	0.551
INTEGRATION IN CO-OPERATIVE	0.488

2) Factor analysis for physical capital

Correlation matrix

	CAPITAL GOODS	LUXURY GOODS	LIVESTOCK	LAND
CAPITAL GOODS	1.000			
LUXURY GOODS	0.117 (0.005)	1.000		
LIVESTOCK	0.136 (0.001)	0.214 (0.000)	1.000	
LAND	0.232 (0.000)	0.133 (0.002)	0.514 (0.000)	1.000

Communalities

	INITIAL	EXTRACTION
CAPITAL GOODS	1.000	0.231
LUXURY GOODS	1.000	0.213
LIVESTOCK	1.000	0.634
LAND	1.000	0.646

Total variance explained

COMPONENT	INITIAL EIGENVALUES			EXTRACTION SUMS OF SQUARED LOADINGS		
	TOTAL	% OF VARIANCE	CUM. %	TOTAL	% OF VARIANCE	CUM. %
1	1.724	43.108	43.108	1.724	43.108	43.108
2	0.909	22.717	65.826			
3	0.900	22.494	88.320			
4	0.467	11.680	100.000			

Component matrix

	COMPONENT
LAND	0.804
LIVESTOCK	0.797
CAPITAL GOODS	0.481
LUXURY GOODS	0.461

ANNEX 3

1) OLS estimation for expenditures

DEPENDENT VARIABLE: LOG(EXPENDITURE)				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
Included observations: 478				
VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
CONSTANT	7.295573	0.357230	20.42261	0.0000
SOCIAL CAPITAL	0.238823	0.027002	8.844473	0.0000
PHYSICAL CAPITAL	0.179994	0.027509	6.543018	0.0000
HOUSEHOLD SIZE	0.093301	0.012415	7.515266	0.0000
EDUCATION	0.065697	0.010305	6.375357	0.0000
AGE	0.034586	0.014468	2.390502	0.0172
AGE-SQUARED	-0.000268	0.000138	-1.935554	0.0535
GENDER	0.069827	0.110272	0.633223	0.5269
DISTANCE	-0.002166	0.003280	-0.660536	0.5092
SECTOR	-0.031338	0.056377	-0.555877	0.5786
R-SQUARED	0.399682	MEAN DEPENDENT VAR	9.015765	
ADJUSTED R-SQUARED	0.388138	S.D. DEPENDENT VAR	0.700473	
S.E. OF REGRESSION	0.547921	AKAIKE INFO CRITERION	1.655328	
SUM SQUARED RESID	140.5019	SCHWARZ CRITERION	1.742559	
LOG LIKELIHOOD	-385.6235	F-STATISTIC	34.62078	
DURBIN-WATSON STAT	1.946090	PROB(F-STATISTIC)	0.000000	

2) Residual tests

WHITE HETEROSKEDASTICITY TESTS OLS ESTIMATION			
NO CROSS TERMS			
F-STATISTIC	1.179847	PROBABILITY	0.283724
OBS*R-SQUARE	17.63507	PROBABILITY	0.282337
CROSS TERMS			
F-STATISTIC	1.385844	PROBABILITY	0.046751
OBS*R-SQUARE	68.02012	PROBABILITY	0.055703

NORMALITY TESTS	JARQUE BERA	PROBABILITY
OLS EXPENDITURE	2.874059	0.237633

ANNEX 4

1) Probit estimation access to credit

DEPENDENT VARIABLE: K2				
VARIABLE	COEFFICIENT	STD. ERROR	Z-STATISTIC	PROB.
CONSTANT	0.867339	0.878963	0.986775	0.3238
SOCIAL CAPITAL	0.565649	0.081426	6.946779	0.0000
PHYSICAL CAPITAL	-0.114673	0.068648	-1.670458	0.0948
HOUSEHOLD SIZE	0.017477	0.031692	0.551453	0.5813
EDUCATION	0.055910	0.028027	1.994864	0.0461
AGE	-0.000920	0.034245	-0.026862	0.9786
AGE-SQUARED	-3.56E-05	0.000314	-0.113129	0.9099
GENDER	0.209184	0.271006	0.771877	0.4402
DISTANCE	0.025202	0.009391	2.683695	0.0073
SECTOR	-0.867713	0.170406	-5.092024	0.0000
MEAN DEPENDENT VAR	0.696653	S.D. DEPENDENT VAR		0.460186
S.E. OF REGRESSION	0.421212	AKAIKE INFO CRITERION		1.055789
SUM SQUARED RESID	83.03250	SCHWARZ CRITERION		1.143019
LOG LIKELIHOOD	-242.3335	HANNAN-QUINN CRITER.		1.090083
RESTR. LOG LIKELIHOOD	-293.3361	AVG. LOG LIKELIHOOD		-0.506974
LR STATISTIC (7 DF)	102.0052	McFADDEN R-SQUARED		0.173871
PROBABILITY(LR STAT)	0.000000			
OBS WITH DEP=0	145	TOTAL OBS		478
OBS WITH DEP=1	333			

2) Probit estimation access to credit (reduced sample)

DEPENDENT VARIABLE: K2				
VARIABLE	COEFFICIENT	STD. ERROR	Z-STATISTIC	PROB.
CONSTANT	1.156925	0.992738	1.165388	0.2439
SOCIAL CAPITAL	0.699410	0.099256	7.046496	0.0000
PHYSICAL CAPITAL	-0.161933	0.088249	-1.834964	0.0665
HOUSEHOLD SIZE	0.017031	0.037099	0.459073	0.6462
EDUCATION	0.018772	0.035196	0.533360	0.5938
AGE	-0.042966	0.038589	-1.113409	0.2655
AGE-SQUARED	0.000382	0.000358	1.067743	0.2856
GENDER	0.223937	0.310814	0.720485	0.4712
DISTANCE	0.026720	0.011781	2.267938	0.0233
SECTOR	-0.544963	0.199658	-2.729489	0.0063
MEAN DEPENDENT VAR	0.500000	S.D. DEPENDENT VAR		0.500830
S.E. OF REGRESSION	0.440823	AKAIKE INFO CRITERION		1.171124
SUM SQUARED RESID	56.74280	SCHWARZ CRITERION		1.293985
LOG LIKELIHOOD	-166.8397	HANNAN-QUINN CRITER.		1.220282
RESTR. LOG LIKELIHOOD	-209.3304	AVG. LOG LIKELIHOOD		-0.552449
LR STATISTIC (7 DF)	84.98155	McFADDEN R-SQUARED		0.202984
PROBABILITY(LR STAT)	1.64E-14			
OBS WITH DEP=0	151	TOTAL OBS		302
OBS WITH DEP=1	151			

3) Prediction tables

Access to credit

	ESTIMATED EQUATION			CONSTANT		
				PROBABILITY		
	DEP=0	DEP=1	TOTAL	DEP=0	DEP=1	TOTAL
P(DEP=1)≤C	51	48	99	0	0	0
P(DEP=1)>C	94	285	379	145	333	478
TOTAL	145	333	478	145	333	478
CORRECT	51	285	336	0	333	333
% CORRECT	35.17	85.59	70.29	0.00	100.00	69.67
% INCORRECT	64.83	14.41	29.71	100.00	0.00	30.33
TOTAL GAIN*	35.17	-14.41	0.63			
PERCENT GAIN**	35.17	NA	2.07			

Access to credit (reduced sample)

	ESTIMATED EQUATION			CONSTANT		
				PROBABILITY		
	DEP=0	DEP=1	TOTAL	DEP=0	DEP=1	TOTAL
P(DEP=1) ≤ 0.5	110	45	155	151	151	302
P(DEP=1) > 0.5	41	106	147	0	0	0
TOTAL	151	151	302	151	151	302
CORRECT	110	106	216	151	0	151
% CORRECT	72.85	70.20	71.52	100.00	0.00	50.00
% INCORRECT	27.15	29.80	28.48	0.00	100.00	50.00
TOTAL GAIN*	-27.15	70.20	21.52			
PERCENT GAIN**	NA	70.20	43.05			

References

- Bastelaer T. van (1999) "*Does Social Capital Facilitate the Poor's Access to Credit? A Review of the Microeconomic Literature*", Social Capital Initiative Working Paper No. 8
- Bastiaensen J. (1997) "Non-Conventional Rural Finance and the Crisis of Economic Institutions in Nicaragua" in: J.P. de Groot and R. Ruben (eds.) "*Sustainable Agriculture in Central America*", MacMillan Press, 191-209
- Bowles, S. (1998) Endogenous Preferences: The Cultural Consequences of Markets and other Economic Institutions", *Journal of Economic Literature*, 36(3): 75-111.
- Douma S. and H. Schreuder (1991) "*Economic approaches to organisations*", Prentice Hall International (UK) Ltd.
- Evans, P. (1996) "Government Action, Social Capital and Development: Reviewing the Evidence on Synergy", *World Development* 24(6): 1119-1132
- Hair, J.F., R.E. Anderson, R.L. Tatham, W.C. Black (1992) "*Multivariate Data Analysis, with Readings*", Macmillan Publishing Company, Third edition.
- Hodgson, G.M. (1998) "The approach of Institutional economics", *Journal of Economic Literature* Vol. XXXVI (march): 166-192.
- Janvry, A. de, E. Sadoulet, and E. Thorbecke (1995), "State, Market and Civil Organizations. New Theories, new practices and their implications for rural development", in: Janvry, A. de, S. Radwan, E. Sadoulet, and E. Thorbecke (eds.), *State, Market and Civil Organizations. New Theories, new practices and their implications for rural development*, Macmillan Press
- Klein P.G. (1998), *New Institutional Economics*. Research Paper, University of Georgia, Department of Economics.
- Krishna, A. and N. Uphoff (1999) "*Social factors in sustainable land use management: Social capital and watershed development in Rajasthan*", India Draft paper prepared for the international workshop Economic policy reforms and sustainable land use in LDCs
- Malucio, J., L. Haddad, J. May (1999) "*Social capital and income generation in South Africa 1993-98*" Washington, IFPRI-FCND Discussion paper no. 71
- Narayan, D. and L. Pritchett (1998) "Cents and Sociability: Household Income and Social Capital in Rural Tanzania". Washington, World Bank Research Working Paper No. 1796.
- Picciotto, R. (1995) "*Putting Institutional Economics to Work. From Participation to Governance*". Washington, World Bank Discussion Paper no. 304
- Pindyck R.S and D.L. Rubinfeld (1991) "*Econometric Models & Economic Forecasts*". Singapore, McGraw Hill International, third edition.
- Platteau, J.Ph. (1995) "A Framework for the Analysis of Evolving Patron-Client Ties in Agrarian Economies", *World Development*, 23(5): 767-786.
- Platteau, J.Ph. (1994) "Behind the Market Stage where Real Societies Exist, Parts I (The Role of Public and Private Order Institutions) and II (The Role of Moral Norms)", *Journal of Development Studies*, 30: 533-577 and 753-817.
- Putnam, R. (1993) "*Making Democracy Work: Civic Traditions in Modern Italy*", Princeton, Princeton University Press
- Saccomandi, V. (1995) "Neo-Institutionalism and the Agrarian Economy" in J.D. van der Ploeg and G. van Dijk (eds.) *Beyond Modernization. The Impact of Endogenous Rural Development*, Van Gorcum, Assen, The Netherlands, p 1-9.

Spoor, M. (1992) "*Issues of 'state and market': From intervention to deregulation of food markets in Nicaragua (1979-1992)*" Working Paper Series No. 120, Institute of Social Studies

Streeck, W. and P.C. Schmitter, (1985) "Community, market, state- and associations?", in: W. Streeck and P.C. Schmitter (eds.), *Private interest government: Beyond market and state*. Beverly Hills/Londen: Sage.

Uphoff, N. (1993) "Grassroots Organisations and NGOs in Rural Development: Opportunities with Diminishing States and Expanding Markets", *World Development* Vol. 21, No 4, pp 607-622.

Vaessen, J. & J. Bastiaensen, (1998) "*Theoretical perspectives on local institutions and rural development*" paper presented at the ONS workshop: Breakdown and creation of social capital in Sub Sahara Africa

Vaessen, J, O. Cortez & R. Ruben (1999) Transformation of Co-operative Organisations: Pathways of Change for Agricultural Production Co-operatives in Leon-Chinandega, Nicaragua. In: R. Ruben & J. Bastiaensen (eds) (1999) *Rural Development in Nicaragua: Markets, Livelihoods and Local Governance*. Houdsmill. Macmillan Press, pp. 115-139.

Williamson, O.E. (1985), "*The Economic Institutions of Capitalism*", New York, The Free Press, 1985

Woolcock, M. (1998) "Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework", *Theory and Society* 27(2): 151-208

World Bank (1999), Social Capital for Development: <http://www.worldbank.org/poverty/scapital/index.htm>